

## REMARKS

### Claims 1-6 Are Allowable

The Office has rejected claims 1-6 on page 3 of the Office Action, under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 6,985,444 B1 (Rosen) in view of United States Patent Publication No. 2004/0136329 A1 (Duvaut et al.). Applicants respectfully traverse the rejections.

The combination of the cited portions of Rosen and Duvaut et al. does not disclose a method of selecting a profile comprising selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line, as recited in claim 1. Support for this claim amendment may be found in at least paragraph [0015] of Applicants' application.

The Office Action admits that Rosen fails to disclose selecting a profile that has the highest estimated data throughput and points to Duvaut et al. to correct this deficiency. *Office Action*, page 4. Duvaut et al. is directed towards a method for selecting a power spectral density (PSD) mask to optimize the boosted mode in any physical layer noise scenario. *Duvaut et al.*, paragraph [0009]. The PSD of the line is the average noise power unit of bandwidth and is measured in power per frequency (dBm/Hz). *Duvaut et al.*, paragraph [0007]. To determine which upstream and downstream PSD mask to use, the system uses criteria that includes the upstream and downstream data rates. *Duvaut et al.*, paragraphs [0019] and [0035]. Various data rates are presented for various types of noise across various lines. *Duvaut et al.*, tables 5, 6 and 7. The system uses a weighting factor in combination with the data rates to arrive at a cost function. *Duvaut et al.*, paragraphs [0035] and [0036]. The PSD mask is selected based on the cost function. *Duvaut et al.*, paragraph [0037]. The selected PSD mask dictates the maximum allowable PSD for a service in the presence of any interference combination. *Duvaut et al.*, paragraph [0007]. Various combinations of noises such as T1, HDSL and SHDSL cross talk can be present and the PSD mask is selected so as to work in the greatest percentages of scenarios. *Duvaut et al.*, paragraphs [0046]-[0050]. The PSD mask is thus selected so as to meet minimum

data rate requirements for the greatest percentages of test scenarios. *Duvaut et al.*, paragraph [0057].

In contrast to claim 1, the combination of Rosen and Duvaut et al. does not disclose a method of selecting a profile comprising selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line. As admitted in the Office Action, Rosen does not disclose this element. Duvaut et al. reveals weighing data rates and using same to obtain a cost function to select a PSD mask that works best for various noise combinations. *Duvaut et al.*, paragraphs [0036], [0046] and [0050]. The PSD mask is not selected that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line, but rather the PSD mask is selected based on measurements at various noise types along various lines so as to arrive at a PSD mask that works best under the most combinations of noise. *Duvaut et al.*, paragraphs [0035], [0046] and [0050]. Further, the PSD mask in Duvaut et al. seeks to boost power spectral density (PSD) of the line and not throughput and, as such, is not a profile that has the highest estimated data packet throughput value. *Duvaut et al.*, paragraph [0009]. Applicants respectfully submit that a *prima facie* case of obviousness does not exist based on the combination of Rosen and Duvaut et al. since all of the elements of claim 1 are not found in the combination of references. Applicants respectfully request the rejection to claim 1 be withdrawn and submit that claim 1 is allowable.

Claims 2-6 depend from claim 1, which Applicants have shown to be allowable. Hence Rosen and Duvaut et al. fail to disclose at least one element of each of claims 2-6. Accordingly, claims 2-6 are also allowable, at least by virtue of their dependency from claim 1.

#### **Claim 7 is Allowable**

The Office has rejected claim 7 on page 6 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Rosen in view of Duvaut et al. and further in view of United States Patent Publication No. 2003/0189977 A1 (Sweitzer et al.). Applicants respectfully traverse the rejection.

Claim 7 depends from claim 1 which Applicants have shown to be allowable. Sweitzer et al. does not disclose or suggest the elements recited in claim 1 that are not disclosed or suggested by Rosen and Duvaut et al. For example, Sweitzer et al. does not disclose or suggest a method of selecting a profile comprising selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line, as recited in claim 1. Sweitzer et al. is directed towards a communication system in which a central office and a remote location negotiate with one another in order to arrive at an optimum data rate. *Sweitzer et al.*, Abstract. Sweitzer et al. fails to reveal selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line. Thus, claim 7 is allowable, at least by virtue of its dependency from claim 1.

**Claim 8 is Allowable**

The Office has rejected claim 8 on page 7 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Rosen in view of Duvaut et al. and further in view of United States Patent No. 6498808 B1 (Tzannes). Applicants respectfully traverse the rejection.

Claim 8 depends from claim 1 which Applicants have shown to be allowable. Tzannes does not disclose or suggest the elements recited in claim 1 that are not disclosed or suggested by Rosen and Duvaut et al. For example, Tzannes does not disclose or suggest a method of selecting a profile comprising selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line, as recited in claim 1. Tzannes is directed towards a communication system that uses multicarrier modulation to enjoy higher immunity to impulse noise, a lower complexity equalization requirement, and higher data rate and bandwidth flexibility. *Tzannes*, column 1, lines 19-43. Tzannes fails to reveal selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line. Thus, claim 8 is allowable, at least by virtue of its dependency from claim 1.

Further, claim 8 includes additional features that are not disclosed or suggested by the combination of Rosen, Duvaut et al. and Tzannes. For example, claim 8 calls for at least one of the first set of the plurality of profiles to be an interleaved profile and another of the first set of the plurality of profiles to be a non-interleaved profile. The Office Action states that this feature is not disclosed by Rosen and Duvaut et al. and points to Tzannes to correct this deficiency. *Office Action*, page 7. Tzannes discloses a dual latency system that has an interleaved path and a non-interleaved path. *Tzannes*, column 21, lines 1-5. However, nowhere is an interleaved profile or a non-interleaved profile disclosed in Tzannes. An interleaved path is not an interleaved profile, and a non-interleaved path is not a non-interleaved profile. For this additional reason, claim 8 is allowable.

### **Claim 9 is Allowable**

The Office has rejected claim 9 on page 8 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Rosen in view of Duvaut et al. and further in view of United States Patent No. 6445773 B1 (Liang et al.). Applicants respectfully traverse the rejection.

Claim 9 depends from claim 1 which Applicants have shown to be allowable. Liang et al. does not disclose or suggest the elements recited in claim 1 that are not disclosed or suggested by Rosen and Duvaut et al. For example, Liang et al. does not disclose or suggest a method of selecting a profile comprising selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line, as recited in claim 1. Liang et al. is directed towards instrumentation for testing cables for ADSL which measure the frequency characteristics of the cable with discrete tones and adjusts the optimum automatic gain control setting for each tone. *Liang et al.*, column 2, lines 15-21. Liang et al. fails to reveal selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line. Thus, claim 9 is allowable, at least by virtue of its dependency from claim 1.

Further, claim 9 includes additional features that are not disclosed or suggested by the cited portions of Rosen, Duvaut et al. and Liang et al. For example, claim 9 calls for a graphical

display that illustrates the first estimated data packet throughput value, the second estimated data packet throughput value, and the number of code violations. The Office Action states that this feature is not disclosed by Rosen and Duvaut et al. and points to Liang et al. to correct this deficiency. *Office Action*, page 8. Liang et al. discloses calculation of the theoretical maximum upstream data rate, practical upstream data rate, theoretical maximum downstream data rate, and practical downstream data rate. *Liang et al.*, column 9, lines 1-5. The TU1 displays the test results if required. *Liang et al.*, column 9, lines 5-9. However, Liang et al. makes no mention of a graphical display and does not disclose a graphical display that illustrates the first estimated data packet throughput value, the second estimated data packet throughput value, and the number of code violations. For this additional reason, claim 9 is allowable.

#### **Claims 10, 14 and 15 are Allowable**

The Office has rejected claims 10, 14 and 15 on page 10 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Rosen in view of Duvaut et al. and Tzannes and further in view of Liang et al. Applicants respectfully traverse the rejections.

Claims 10, 14 and 15 depend from claim 1 which Applicants have shown to be allowable. Tzannes and Liang et al. do not disclose or suggest the elements recited in claim 1 that are not disclosed or suggested by Rosen and Duvaut et al. For example, the cited portions of Tzannes and Liang et al. do not disclose or suggest a method of selecting a profile comprising selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line, as recited in claim 1. Liang et al. is directed towards instrumentation for testing cables for ADSL which measure the frequency characteristics of the cable with discrete tones and adjusts the optimum automatic gain control setting for each tone. *Liang et al.*, column 2, lines 15-21. Tzannes is directed towards a communication system that uses multicarrier modulation to enjoy higher immunity to impulse noise, a lower complexity equalization requirement, and higher data rate and bandwidth flexibility. *Tzannes*, column 1, lines 19-43. The cited portions of Tzannes and Liang et al. fail to reveal selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the

digital subscriber line. Thus, claims 10, 14 and 15 are allowable, at least by virtue of their dependency from claim 1.

Further, claim 10 includes additional features that are not disclosed or suggested by the cited portions of Rosen, Duvaut et al., Tzannes and Liang et al. For example, claim 10 calls for the graphical display to illustrate a first set of data packet throughput points for the first profile and a second set of data packet throughput points for the second profile. The Office Action states that this feature is not disclosed by Rosen, Duvaut et al. and Tzannes and points to Liang et al. to correct this deficiency. *Office Action*, page 10. Liang et al. discloses calculation of the theoretical maximum upstream data rate, practical upstream data rate, theoretical maximum downstream data rate, and practical downstream data rate. *Liang et al.*, column 9, lines 1-5. The TU1 displays the test results if required. *Liang et al.*, column 9, lines 5-9. However, Liang et al. makes no mention of a graphical display and does not disclose a graphical display that illustrates a first set of data packet throughput points for the first profile and a second set of data packet throughput points for the second profile. For this additional reason, claim 10 is allowable.

Claim 14 includes additional features that are not disclosed or suggested by the cited portions of Rosen, Duvaut et al., Tzannes and Liang et al. For example, claim 14 calls for a method wherein the first set of data packet throughput points form a first display curve and the second set of data packet throughput points form a second display curve. The Office Action states that this feature is disclosed by Rosen. *Office Action*, page 11. Rosen discloses assignment of a color code to a line based upon line characteristics matching or not matching a certain criteria. *Rosen*, column 12, lines 38-47. This color assignment is not a display curve. Assignment of a color code to a line based on its properties is not a method wherein the first set of data packet throughput points form a first display curve and the second set of data packet throughput points form a second display curve. For this additional reason, claim 14 is allowable.

#### **Claims 11-13 are Allowable**

The Office has rejected claims 11-13 on page 12 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Rosen in view of Duvaut et al. and United States Patent No. 6,678,245 B1 (Cooper et al.). Applicants respectfully traverse the rejections.

Claims 11-13 depend from claim 1 which Applicants have shown to be allowable. The cited portions of Cooper et al. do not disclose or suggest the elements recited in claim 1 that are not disclosed or suggested by Rosen and Duvaut et al. For example, the cited portions of Cooper et al. do not disclose or suggest a method of selecting a profile comprising selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line, as recited in claim 1. Cooper et al. is directed towards a performance management operations system that receives information from network elements regarding loads carried and lost packets, performs calculations, and develops recommendations for setting adjustable network elements to effect the quality of service. *Cooper et al.*, column 1, lines 52-60. The cited portions of Cooper et al. fail to reveal selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line. Thus, claims 11-13 are allowable, at least by virtue of their dependency from claim 1.

#### **Claims 16 and 17 are Allowable**

The Office has rejected claims 16 and 17 on page 13 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Rosen in view of Duvaut et al. and United States Patent No. 7,218,645 B2 (Lotter et al.). Applicants respectfully traverse the rejections.

Claims 16 and 17 depend from claim 1 which Applicants have shown to be allowable. The cited portions of Lotter et al. do not disclose or suggest the elements recited in claim 1 that are not disclosed or suggested by Rosen and Duvaut et al. For example, the cited portions of Lotter et al. do not disclose or suggest a method of selecting a profile comprising selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line, as recited in claim 1. Lotter et al. is directed towards a system for optimizing performance of a radio link in terms of power efficiency, bandwidth delivery, energy consumption, channel noise, and overall performance. *Lotter et al.*, column 1, lines 6-10. The cited portions of Lotter et al. fail to reveal selecting, from the first profile and the second profile, a profile that has the highest

estimated data packet throughput value at a particular measured code violation of the digital subscriber line. Thus, claims 16 and 17 are allowable, at least by virtue of their dependency from claim 1.

Further, claim 17 includes additional features that are not disclosed or suggested by the combination of Rosen, Duvaut et al. and Lotter et al. For example, claim 17 calls for the TCP/IP throughput to be determined based on laboratory testing data. Lotter et al. discloses that the overall throughput of a TCP/IP based wireless packet data link is determined in part by the length of the packet. *Lotter et al.*, column 12, lines 9-12. The length of a data packet is not TCP/IP throughput that is determined based on laboratory testing data. For this additional reason, claim 17 is allowable.

#### **Claim 18 is Allowable**

The Office has rejected claim 18 on page 14 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Rosen in view of Duvaut et al. and further in view of United States Patent Publication No. 2003/0033262 A1 (Aoki). Applicants respectfully traverse the rejection.

Claim 18 depends from claim 1 which Applicants have shown to be allowable. The cited portions of Aoki do not disclose or suggest the elements recited in claim 1 that are not disclosed or suggested by Rosen and Duvaut et al. For example, the cited portions of Aoki do not disclose or suggest a method of selecting a profile comprising selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line, as recited in claim 1. Aoki is directed towards a line connection controller that has switching equipment to control line switching in accordance with a request from a subscriber. *Aoki*, Abstract. The cited portions of Aoki fail to reveal selecting, from the first profile and the second profile, a profile that has the highest estimated data packet throughput value at a particular measured code violation of the digital subscriber line. Thus, claim 18 is allowable, at least by virtue of its dependency from claim 1.



**Claims 19 and 20 are Allowable**

The Office has rejected claims 19 and 20 on page 16 of the Office Action, under 35 U.S.C. §102(e), as being anticipated by Rosen. Applicants respectfully traverse the rejections.

None of the cited references, including Rosen, disclose or suggest the specific combination of claim 19. For example, the cited portions of Rosen do not disclose a method comprising selecting a profile for each digital subscriber line in the group of digital subscriber lines wherein each profile is selected based on the estimated data packet throughput values that are the highest estimated data packet throughput values at the particular measured code violations of each digital subscriber line, as recited in claim 19. Support for this claim amendment may be found in at least paragraph [1015] and FIG. 2 of Applicants' application.

The Office action admits that Rosen fails to disclose selecting a profile that has the highest estimated data throughput. Office Action, page 4. Further, other references cited in the Office Action also fail to disclose the elements of claim 19. For example, the cited portions of Duvaut et al. reveal weighing data rates and using same to obtain a cost function to select a PSD mask that works best for various noise combinations. *Duvaut et al.*, paragraphs [0036], [0046] and [0050]. The PSD mask is not selected that has the highest estimated data packet throughput value at the particular measured code violations of each digital subscriber line, but rather the PSD mask is selected based on measurements at various noise types along various lines so as to arrive at a PSD mask that works best under the most combinations of noise. *Duvaut et al.*, paragraphs [0035], [0046] and [0050]. Further, the PSD mask in Duvaut et al. seeks to boost power spectral density (PSD) of the line and not throughput and, as such, is not a profile that has the highest estimated data packet throughput value. *Duvaut et al.*, paragraphs [0009]. Nowhere does the cited portions of Rosen or any of the abovementioned references disclose a method comprising selecting a profile for each digital subscriber line in the group of digital subscriber lines wherein each profile is selected based on the estimated data packet throughput values that are the highest estimated data packet throughput values at the particular measured code violations of each digital subscriber line. Hence, claim 19 is allowable.

Claim 20 depends from claim 19, which Applicants have shown to be allowable. Hence the cited portions of Rosen fail to disclose at least one element of claim 20. Accordingly, claim 20 is also allowable, at least by virtue of its dependency from claim 19.

**Claim 21 is Allowable**

The Office has rejected claim 21 on page 13 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Rosen in view of Duvaut et al. and Lotter et al. Applicants respectfully traverse the rejections.

Claim 21 depends from claim 19 which Applicants have shown to be allowable. The cited portions of Lotter et al. do not disclose or suggest the elements recited in claim 19 that are not disclosed or suggested by the cited portions of Rosen and Duvaut et al. For example, the cited portions of Lotter et al. do not disclose or suggest a method comprising selecting a profile for each digital subscriber line in the group of digital subscriber lines wherein each profile is selected based on the estimated data packet throughput values that are the highest estimated data packet throughput values at the particular measured code violations of each digital subscriber line, as recited in claim 19. The cited portions of Lotter et al. are directed towards a system for optimizing performance of a radio link in terms of power efficiency, bandwidth delivery, energy consumption, channel noise, and overall performance. *Lotter et al.*, column 1, lines 6-10. The cited portions of Lotter et al. fail to reveal selecting a profile for each digital subscriber line in the group of digital subscriber lines wherein each profile is selected based on the estimated data packet throughput values that are the highest estimated data packet throughput values at the particular measured code violations of each digital subscriber line. Thus, claim 21 is allowable, at least by virtue of its dependency from claim 19.

**Claim 22 is Allowable**

The Office has rejected claim 22 on page 3 of the Office Action, under 35 U.S.C. §103(a), as being unpatentable over Rosen in view of Duvaut et al. Applicants respectfully traverse the rejections.

Claim 22 depends from claim 19 which Applicants have shown to be allowable. The cited portions of Duvault et al. do not disclose or suggest the elements recited in claim 19 that are not disclosed or suggested by the cited portions of Rosen and Duvault et al. For example, the cited portions of Duvault et al. do not disclose or suggest a method comprising selecting a profile for each digital subscriber line in the group of digital subscriber lines wherein each profile is selected based on the estimated data packet throughput values that are the highest estimated data packet throughput values at the particular measured code violations of each digital subscriber line, as recited in claim 19. The cited portions of Duvault et al. are directed towards weighing data rates and using same to obtain a cost function to select a PSD mask that works best for various noise combinations. *Duvault et al.*, paragraphs [0036], [0046] and [0050]. The cited portions of Duvault et al. fail to reveal selecting a profile for each digital subscriber line in the group of digital subscriber lines wherein each profile is selected based on the estimated data packet throughput values that are the highest estimated data packet throughput values at the particular measured code violations of each digital subscriber line. Thus, claim 22 is allowable, at least by virtue of its dependency from claim 19.

#### **Claims 23 and 24 are Allowable**

The Office has rejected claims 23 and 24 on page 9 of the Office Action, under 35 U.S.C. § 103(a) as being unpatentable over Rosen in view of Liang et al. Applicants respectfully traverse the rejections.

The combination of the cited portions of Rosen and Liang et al. does not disclose a controller that selects a profile from the profile database that has the highest data packet throughput value at a particular measured code violation for at least one of the digital subscriber lines, as recited in claim 23. Support for the amendment to claim 23 may be found in at least paragraph [0015], FIG. 2 and original claim 25 of Applicants' application.

The Office Action admits that Rosen fails to disclose selecting a profile that has the highest estimated data throughput. *Office Action*, page 4. The cited portions of Liang et al. are directed towards instrumentation for testing cables for ADSL which measure the frequency characteristics of the cable with discrete tones and adjusts the optimum automatic gain control

setting for each tone. *Liang et al.*, column 2, lines 15-21. The cited portions of *Liang et al.* fail to reveal a controller that selects a profile from the profile database that has the highest data packet throughput value at a particular measured code violation for at least one of the digital subscriber lines. Further, other references cited in the Office Action also fail to disclose the aforementioned elements of claim 23. For example, the cited portions of *Duvaut et al.* reveal weighing data rates and using same to obtain a cost function to select a PSD mask that works best for various noise combinations. *Duvaut et al.*, paragraphs [0036], [0046] and [0050]. The PSD mask is selected based on measurements at various noise types along various lines so as to arrive at a PSD mask that works best under the most combinations of noise. *Duvaut et al.*, paragraphs [0035], [0046] and [0050]. The cited portions of *Duvaut* thus fail to disclose selection of a profile from the profile database that has the highest data packet throughput value at a particular measured code violation for at least one of the digital subscriber lines. Applicants respectfully submit that a *prima facie* case of obviousness does not exist based on the combination of the cited portions of *Rosen* and *Liang et al.* since all of the elements of claim 23 are not found in the combination of references. Applicants respectfully request the rejection to claim 23 be withdrawn and submit that claim 23 is allowable.

Further, claim 23 includes additional features that are not disclosed or suggested by the combination of the cited portions of *Rosen* and *Liang et al.* For example, claim 23 calls for a graphical report that includes a first profile curve illustrating data packet throughput values with respect to code violation data for the first profile and a second profile curve illustrating data packet throughput values with respect to code violation data for the second profile. The cited portions of *Liang et al.* disclose calculation of the theoretical maximum upstream data rate, practical upstream data rate, theoretical maximum downstream data rate, and practical downstream data rate. *Liang et al.*, column 9, lines 1-5. The TU1 displays the test results if required. *Liang et al.*, column 9, lines 5-9. However, the cited portions of *Liang et al.* make no mention of a graphical report that includes a first profile curve illustrating data packet throughput values with respect to code violation data for the first profile and a second profile curve illustrating data packet throughput values with respect to code violation data for the second profile. For this additional reason, claim 23 is allowable.

Claims 24 depends from claim 23, which Applicants have shown to be allowable. Hence the cited portions of Rosen and Liang et al. fail to disclose at least one element of claim 23. Accordingly, claim 23 is also allowable, at least by virtue of its dependency from claim 23.

### **CONCLUSION**

Applicants have pointed out specific features of the claims not disclosed, suggested, or rendered obvious by the references applied in the Office Action. Accordingly, Applicants respectfully requests reconsideration and withdrawal of each of the objections and rejections, as well as an indication of the allowability of each of the pending claims.


Any changes to the claims in this amendment, which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

The Examiner is invited to contact the undersigned attorney at the telephone number listed below if such a call would in any way facilitate allowance of this application.

The Commissioner is hereby authorized to charge any fees, which may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

2-19-2008  
Date

  
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